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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,787	12/05/2001	Yong Sung Ham	049128-5040	2255

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EXAMINER

CHOW, DOON Y

ART UNIT PAPER NUMBER

2675

DATE MAILED: 04/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/001,787

Applicant(s)

HAM, YONG SUNG

Examiner

Dennis-Doon Chow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 11-13 and 16 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 7-10, 14, 15, and 17-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6, 11-13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (WO 99/05567) in view of Usui et al. (5844533)

Johnson discloses an apparatus and a method driving a liquid crystal display, comprising a modulation (correction) means for modulation data in the liquid crystal display (see Fig. 7). The modulation means includes an input means for inputting old data and new data into a LUT (33) which determines modulation data. The LUT then outputs the modulation data to an adder (34). The adder (34) adds the modulation data and the new data, and outputs the total data to the display.

Johnson does not disclose using a calculator to calculate a difference between the old data and the new data. Instead, Johnson discloses determining the difference between the old data and the new data by looking up data in the LUT (33).

Usui, in the same display field, disclose using a calculator circuit including a subtraction circuit for calculating a difference between old data and new data (col. 17, lines 57-65).

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It would have been obvious to one ordinary skill in the art to substitute Usui's calculator circuit for Johnson's LUT to determine the difference between the old data and the new data. This would have been obvious because Johnson teaches that the calculator circuit can be used instead of the LUT (page 3, lines 2-5).

Allowable Subject Matter

3. Claims 4-5, 7-10, 14-15 and 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

4. Applicant's arguments filed 2/17/04 have been fully considered but they are not persuasive.

Applicant argues that neither Johnson et al. nor Usui et al. teaches or suggests "setting first modulated data in advance in the liquid crystal display", "calculating a difference between the first modulated data and input data", and "modulating the input data by using the calculated difference to output second modulated data" as set forth in claim 1. Applicant further argues that neither Johnson et al. nor Usui et al. teaches or suggests "a modulator modulating the input data by using subtracted data between first modulated data set in advance and the input data from the input line to output second modulated data".

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The examiner disagrees with applicant's arguments. As it is indicated in the previous rejections, Johnson teaches the modulation means includes an input means for inputting old data (first modulated data which was set in advance) and new data (input data) into a LUT (33) which determines modulation data. The LUT then outputs the modulation data to an adder (34). The adder (34) adds the modulation data and the new data, and outputs the total data to the display. Usui teaches using a calculator circuit including a subtraction circuit for calculating a difference between old data and new data (col. 17, lines 57-65). With the teachings of Johnson and Usui, it is clear that the combination Johnson and Usui teaches the limitations as set forth in claims 1 and 11.

Applicant cannot show non-obviousness by attacking references individually where as here the rejections are based on combination of references. In re Keller, 208 USPQ 871 (CCPA 1981).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis-Doon Chow whose telephone number is 703-305-4398. The examiner can normally be reached on 8:30-6:00, Alternate Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on 703-305-9720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

D. Chow
April 29, 2004


DENNIS-DOON CHOW
PRIMARY EXAMINER